

TALL POPPY CAMPAIGN

Investing in Australia's Future

Young Tall Poppy Profile: Dr Kathy Belov

Name: Kathy Belov

Title (ie. Dr, Assoc Prof, etc): Dr

Research Field: Comparative Genomics

Abbreviated Qualifications: BSc, PhD

Current position: Lecturer (Senior Lecturer from 2009)

University/Institution: Faculty of Veterinary Science, University of Sydney

What do you do? (in 100 easy-to-understand words or less)

I use comparative genomics to study immunity, health and disease in our native wildlife. I study immune genes in Tasmanian devils, wallabies, platypuses and koalas. I have found a direct link between loss of genetic diversity and the emergence of a new disease in the devils.

Why is this research important? How is it relevant to society at large?

Identifying and studying immune genes is important for monitoring the health of our native wildlife, many of which are threatened and face conservation issues. My research also provides insights into the evolution of the mammalian immune system and helps explain how our own complex immune system has evolved.

What's difficult about it?

You can measure immune responses in humans using commercial kits, but, because marsupials are only distantly related to humans, these reagents do not work on marsupials. We have had to start from scratch and do a lot of fundamental research to characterize the components of the marsupial immune system. This is a big job and we still have a long way to go.

Why are you passionate about it?

Research is a constant adventure. You never know what tomorrow's results will bring. I am constantly challenged and constantly stimulated. I work with the nicest people - in my lab, at uni and across Australia and the world. Our research results are actively being used by conservation managers and zoos, so I feel that I am making a direct contribution to conserving our amazing native species.

Why share your research with high school students?

Most school students themselves are very interested in conservation and want to know what they can do to help. These talks are always lots of fun – because I find the students enthusiastically engage with the topic.

Why study sciences?

Science and research in particular, allow you to forge a career in your area of interest. You get paid to do your hobby!! You need to have an inquisitive mind and be self-motivated and driven. One aspect of a research career, that may not be well known, is that you get to do lots of international travel. I work with researchers in the US, Europe, the UK and New Zealand and now have friends all over the world who I visit regularly.

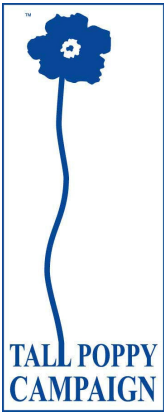
Is it what you've always wanted to do?

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No – not at all. At the end of school I was still completely unsure of what I wanted to do. I was considering management, teaching, law and sciences. I did a science degree because I enjoyed science at school and knew I should study something at uni, and knew I could build on that qualification later, once I had decided on a career path. I didn't decide on a research career till after I have completed my undergraduate degree and had worked as a research assistant for a couple of years.

What else are you into? (ie. What are your hobbies and interests when you're not researching)?
Reading, travelling, walking the dogs, catching up with friends.

Public profile (Please list the science promotion activities you have taken part in – incl. University Open Day activities, community programs, talks etc and media articles featuring you/your research):

Kathy has participated in Australian Museum open days, University open days and careers nights and at a National Youth Science Forum. She presented her work to high school teachers at the Gene Technology Access Centre. Recently while she was in the US, she did several presentations to American high school students. She had appeared on *Totally Wild*, *Catalyst*, the Discovery channel and SBS and ABC news. Her research is regularly featured on ABC radio, and in newspaper articles and university newsletters.

Your achievements - How did you get where you are today?

Your HSC subjects: Maths (3U), English (2UG), Biology (2U), Chemistry (2U), Russian (3U)

Degrees: BSc (Hons), PhD (Macquarie University)

Some of your previous position/s:

ARC Postdoctoral Research Fellow in the Evolutionary Biology Unit at the Australian Museum
University of Sydney Postdoctoral Fellow

Current position: Lecturer in Genetics at the Faculty of Veterinary Science at the University of Sydney

Relevant awards and prizes you have received as part of your studies/research/work:

Kathy has received an Australian postgraduate award, an ARC Postdoctoral fellowship, a University of Sydney Postdoctoral fellowship and an Australian Academy of Sciences Travel Fellowship.

Summary of published works: Kathy has published 43 research papers in peer reviewed journals, including *Nature*, *PLoS Biology*, *Genome Research* and *Proceedings of the National Academy of Sciences*.

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